9:45 a.m.

804-3 **Quality of Life of Patients With Symptomatic Multivessel Coronary Disease: The Medicine, Angioplasty, or Surgery Study (MASS II)**

Dirceu Carrara, Shirley B. Hiscock, Elisabete S. Margarido, Alice Tanaka, Mmyrthes E. Takiuti, Desiderio Favarato, Protasio L. Luz, Whady Hueb, Sergio A. Olveira, Jose A. Ramires, *Heart Institute-University of Sao Paulo-Brazil, Sao Paulo, Brazil.*

Background: although coronary angioplasty (PTCA) and coronary bypass surgery (CABG) are routinely used, there is no conclusive evidence that these interventional methods offer greater benefit than medical therapy MT alone as far as quality of life (QOL).
Objective: This study sought to evaluate the QOL of three possible therapeutic strategies for patients with symptomatic multivessel coronary disease and preserved ventricular function.
Methods: a total of 7783 eligible patients with multivessel disease were screened in a single institution and 611 (7.8%) patients were randomly assigned to undergo CAGB, (203) to PTCA (205) and (203) to MT. QOL was evaluated by SF-36 questionnaire by interviews, in the pre treatment phase and 6 and 12 months of follow up.
Results: although all treatments offered improvement in QOL, such amelioration was greater in surgical group(table). *p<.0001
Conclusion: In conclusion surgical treatment offers better QOL among patients with extensive CAD than PCTA or MT.

TREATMENT	ANGIOPLASTY		CLINICAL		SURGERY	
PERIOD	PRE	12mo	PRE	12mo	PRE	12mo
Physical Functioning	59.2	72.8*	50.2	66.2*	46.6	73.5*
Role Physical	34	52.6*	23.4	39.8*	20.7	48.2*
General Health	64.5	63.8	63.4	60.8	62.5	64.4*
Mental Health	65.9	74.6*	63.4	70.4*	64.4	74*
Vitality	64	72.2*	55.6	61.6*	56.1	73.8*
Role Emotional	51.9	67.1*	49.8	64.9*	45.5	68.9*
Social Functioning	57.5	70*	57.4	62.7*	52.7	66.9*
Bobly Pain	63.1	75.4*	61.7	70.1*	56.8	76.8*

10:00 a.m.

804-4 **Predictors of Stroke After Conventional Versus Coronary Revascularization Without Cardiopulmonary Bypass**

Sotiris C. Stamou, Albert J. Pfister, Kathleen A. Jablonski, Peter C. Hill, Mercedes K. Dullum, Ammar S. Bafi, Steven W. Boyce, Kathleen Petro, Paul J. Corso, *Washington Hospital Center, Washington, Dist. of Columbia, MedStar Research Institute, Washington, Dist. of Columbia.*

BACKGROUND: Postoperative stroke is a serious complication after standard coronary artery bypass grafting (CABG) with cardiopulmonary bypass (On-pump). It is unknown whether an off-cardiopulmonary bypass approach (OPCAB) may yield a lower stroke rate over the conventional On-pump CABG.
METHODS: From June 1996 to December 2000, OPCAB was performed in 2,430 patients and compared with
a contemporaneous computer-matched control of 9,046 patients who had On-pump-CABG, during the same period of time. Patients were matched for age category, number of grafted vessels, left ventricular dysfunction, gender, year of surgery, and reoperative CABG. Preoperative risk factors for stroke not used in the matching were included in the model. The general estimating method was used in a logistic regression to test the difference in the post-operative stroke rate between OPCAB and on-pump surgery controlling for the correlation between matched sets.
RESULTS: Matches by propensity score were found for 72% of the OPCAB cases. On-pump CABG was associated with a higher incidence of stroke than OPCAB (Table). Other independent predictors of stroke are presented in table.
CONCLUSION: A substantially lower stroke rate suggests that OPCAB is a safe treatment option for revascularization. Prospective randomised trials are warranted to confirm the results of this study.

Independent Correlates of Stroke After CABG (multivariate logistic regression analysis)

Risk factors	Odds Ratio	95% Confidence Intervals	P-value
Ejection fraction < 25%	1.94	1.16 - 3.16	0.009
Carotid artery disease	1.82	1.00 - 3.10	0.039
Cardiopulmonary bypass	1.72	1.09 - 281	0.024
COPD	1.64	1.04 - 2.50	0.025
Hypertension	1.53	1.12 - 2.13	0.01
Previous cerebrovascular accident	1.52	1.00 - 2.28	0.05
Female gender	1.35	1.01 - 1.78	0.039
Age	1.04	1.02 - 1.05	<0.001

10:15 a.m.

804-5 **Use of Both Internal Mammary Arteries for Coronary Artery Bypass Grafting in Diabetics Avoiding Median Sternotomy**

Vassilios Gulielmos, Utz Kappert, Jens Schneider, Romuald Cichon, Joachim Nicolai, Anno Diegeler, *Heart Center Dresden, University Hospital, Dresden, Germany.*

Background: The use of bilateral internal mammary artery (BIMA) grafting is related to increased sternal wound complications. Recent minimally invasive techniques avoiding sternotomy with BIMA grafting could hardly be achieved. The introduction of a wrist-enhanced robotic system allows the application of BIMA without sternotomy via three one cm stab wounds and a small left lateral chest incision allows complete arterial revascularization using regular cardiopulmonary bypass.
Methods: Since 5/99 48 patients (35 male, 13 female, aged 65± 8.5 years, LVEF 67± 10.7%) were treated for coronary artery disease. 72% were diabetics. Both IMAs were harvested via three ports using the da Vinci™ surgical system. Access to the heart for central aortic cannulation and coronary anastomoses was achieved via a 6 to 8 cm left lateral chest incision at the level of the 2nd intercostal space.
Results: There occurred one death in this series due to pneumonia on postoperative day 16. Conversion rate to median sternotomy was 6.25%. Duration of surgery was 237.5± 74.5 min, ICU stay 22± 19.1 h, ventilation time 4.3± 10.9 h and total hospital stay 7± 1 days, respectively.
Conclusion: The concept of total arterial revascularization using BIMA grafting was applied in 72.9%. There were no sternal instabilities or wound infections. This minimally invasive approach allows total endoscopic BIMA harvesting using three one cm ports only. Via a small left lateral chest incision use of BIMA for CABG is possible. Thus, the risk in developing sternal wound complications in diabetics is decreased.

POSTER SESSION

1099 Fundamentals of Myocardial Ischemia

Monday, March 18, 2002, Noon-2:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 1:00 p.m.-2:00 p.m.

1099-27 **Cardioprotection Caused by Ischemic Preconditioning or by an Alpha 1-Adrenergic Receptor Agonist Is Blocked in Hearts From Epsilon Protein Kinase C Knockout Mice**

Hui-zhong Zhou, Joel S. Karliner, Peili Zhu, Daria Mochly-Rosen, Robert O. Messing, Mary O. Gray, *VA Medical Center, UCSF, San Francisco, California, Stanford University, San Francisco, California.*

Background: Independent laboratories have shown that Epsilon Protein Kinase C (e-PKC) activation is a critical event in cardiac protection induced by ischemic preconditioning. However, cardioprotective mechanisms have not been thoroughly elucidated. In the present study, we used e-PKC knockout (KO) mice to test the hypothesis that e-PKC is required for protection induced by both ischemic preconditioning and by the alpha 1-adrenenrgic receptor agnonist Phenylephrine (PE). Methods: We subjected isovolumically contracting hearts to 20 min ischemia and 30 min reperfusion on a Langendorff apparatus. Following reperfusion, hearts were perfused with triphenyltetrazolium chloride (TTC) to measure infarction size. Results: Although left ventricular (LV) weights were lower in KO hearts (134±7 vs.198±8 mg for WT; n=18, P<0.05), there were no differences in LV developed pressure (LVDP) between the two groups (84±3 vs. 86±3 mmHg for WT, n=18, P=NS) or in coronary flow (3.0±0.2 vs. 3.1±0.1 ml/min for WT, n=18, P=NS) at baseline. Pretreatment of WT hearts with 2 min ischemia (TIP) or 20 um PE improved LVDP recovery during reperfusion (61±3 and 60±4 vs. 20±4 mmHg for controls, n=6, p<0.05) and decreased CK release (0.36±0.03 and 0.34±0.03 vs. 0.75±0.04 U/min.g for controls, n=6 P<0.05). As anticipated, TIP and PE reduced infarction size in WT hearts (32±4% and 35±3% vs. 47±3% LV volume for controls, n=6, P<0.05). However, TIP and PE did not reduce infarction size in KO hearts (41±6% and 43±8% vs. 49±6 LV volume for controls, n=6, P=NS)despite LVDP recovery did not complete abolished (33 ±7 and 32 ±7 vs19 mmHg for control, n=6, P=NS). Conclusions: These results are compelling evidence that e-PKC activation is a critical signaling event initiated by ischemic preconditioning and alpha 1-adrenenrgic receptor stimulation that reduces myocardial infarction. The observation that increases in LVDP induced by TIP or PE are diminished but not abolished in KO hearts suggests that mechanisms in addition to reduction of infarction contribute to contractile recovery.

1099-28 **A New Development of High Fidelity Canine DNA Microarray: Application for the Assessment of Gene Expressions of Reversibly or Irreversibly Injured Ischemic Myocardium**

Masanori Asakura, Masafumi Kitakaze, Shoji Sanada, Hiroshi Asanuma, Seiji Takashima, Tetsuji Minamino, Koichi Node, Hisakazu Ogita, Yoshiro Asano, Yasunori Shintani, Liao Yulin, Masatsugu Hori, *Osaka University Graduate School of Medicine, Suita, Japan, National Cardiovascular Center, Suita, Japan.*

DNA microarray opens the window to assess molecular consequences following physiological events. However, commercially available mice DNA microarray can not provide the precise gene expression profile following different cardiac stress. For example, reversible ischemia mediates several cardiac defense mechanisms such as development